

REMARKS

The Office Action dated May 18, 2004 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claim 1 has been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added. Claims 1-5 and 8-10 are presently pending in the application and are respectfully submitted for consideration.

The Office Action objected to the disclosure because of the phrase on page 7, line 10, which reads "the dial tone goes out as soon as the first digit has been dialed." The Office Action took the position that it should read "the dial tone goes out as soon as the last digit has been dialed." Applicants respectfully traverse this objection, because, as is known in the art, a dial tone is generated when a terminal unit goes off-hook. The generated dial tone goes off after a first digit is dialed. In other words, a dial tone is heard until a first digit is dialed. Therefore, Applicants respectfully submit that the disclosure is worded correctly in its present form.

Claim 1 was rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement. The Office Action took the position that the features "at the beginning of" and "after ring-back tone" do not have support in the disclosure. The rejection is respectfully traversed for the following reasons.

On page 10, lines 18-21 of the present application, relating to items 23-24 of Figure 1, it is disclosed that "The terminal unit TU is set to voice mode by sending a

CONNECT message to it. The terminal unit TU acknowledges this by sending a CONNECT_ACK message. The subscriber now hears the ring-back tone from the local exchange LE". In other words, voice mode has begun and a ring-back tone has been received from the local exchange.

Next, on page 10, line 22 to page 11, line 6 of the present application, relating to items 25-28 of Figure 1, various checking functions are described. It is clear from this portion of the disclosure and Figure 1 that the items 25-28 are performed after items 18-21. In other words, the checking functions are carried out at the beginning of voice mode after ring-back tone has been received from the local exchange.

Additionally, Applicants submit that "checking functions" are not another way of saying "call setup." Nor is acceleration of the call setup a function of the checking procedure. Rather, "checking functions" refer to functions related to network security management. The checking functions are designed to prevent illicit access to the network for users who have no right to use it, and to prevent the use of, for example, a mobile station reported stolen (Specification, page 2, lines 1-4). In the exemplary embodiment of Figure 1, the subscriber identification and authentication functions 25-28 constitute the checking functions. Further checking functions are described on page 2, lines 9-20. It is important to note that the checking functions do not accelerate call setup in themselves. They just provide network security. However, depending on when the checking functions are performed, call setup may be slowed down or accelerated. If the checking functions are performed during call setup, as is disclosed in the prior art, then the call setup process

is slowed down (Specification, page 2, lines 5-8). On the other hand, if the checking functions are performed at the beginning of voice mode, as claimed in the present application, the slowing down associated with the prior art does not take place and thus call setup is accelerated as compared to the prior art.

Claims 1-5 and 8-10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art (APA) in view of Ho (U.S. Patent No. 6,314,292). The Official Action took the position that the APA disclosed all of the elements of the claimed invention, specifically the wireless local loop system, with the exception of carrying out the checking functions after voice mode has been set. Ho was cited as teaching that as soon as a service request message is received from a mobile station, the system determines the type of service sought by the mobile station and if the initial channel assignment is found to be inappropriate to the type of service requested, channels switching is performed at this time and the remainder of the call setup process is then completed at the speed to be used by the mobile station for the actual communication. The Office Action then concludes that it would have been obvious for one of ordinary skill in the art to combine APA and Ho to yield the claimed invention. This rejection is respectfully traversed for the reasons which follow.

Claim 1, upon which claims 2-5 and 8-10 are dependant, recites a procedure for setting up a call in a wireless local loop based on mobile communications technology and in which subscriber terminal units are connected via a radio link to an access node and from the access node to a wired network local exchange and in which checking functions

related to network security management are carried out. In order to accelerate call setup, checking functions are carried out at the beginning of voice mode after ring-back tone has been received from the local exchange.

As discussed in the specification on page 8, the voice mode begins after a CONNECT message is sent to the subscriber terminal unit and the terminal unit responds by sending a CONNECT_ACK message. Ring-back tone is then received from the local exchange, indicating the beginning of voice mode to the caller. Therefore, the checking functions are carried out at the beginning of voice mode but only after ring-back tone has been received from the local exchange. This configuration accelerates call setup such that unnecessary time-outs and needless disconnections are avoided. In addition, the time available for the signaling that is needed for call setup is increased.

It is respectfully submitted that the APA and Ho fail to disclose or suggest all of the elements of the presently pending claims.

The APA discloses a standard for a wireless local loop where a terminal unit is connected via a wireless link to an access node. During call setup in a wireless local loop, various checking functions must be conducted to insure network security. The checking operations as defined by the APA hinder the call setup process resulting in time-outs and disconnections. As acknowledged by the Office Action, however, the APA does not teach the performance of the checking functions after voice mode has been set and thus the Office Action also cites Ho.

Ho discloses a method and apparatus for enhanced call setup. The network initially assigns either a slow speed channel such as a SDCCH channel or a higher speed channel such as a TCH/F channel to a mobile station requesting a channel, in accordance with setup procedures desired by a network provider. As soon as the communication management service request message is received from a mobile station, the base station controller checks the message to determine the type of service requested by the mobile station. If the initial channel assignment is determined to be inappropriate to the type of service requested, channel switching is performed at this time. The remainder of the call setup process is then completed at the speed to be used by the mobile station for the actual communication (Ho, Column 3, lines 3-17).

The combination of APA and Ho fails to teach or suggest carrying out checking functions during voice mode connection of the call to accelerate call setup, as recited in the present claims. As discussed above, Ho merely describes how to use different channels for completing call setup depending on the determined call type (Ho, column 3, lines 3-31). In other words, Ho determines the type of service required by the mobile station, and, based on this determination, Ho selects the type of channel assigned to the mobile station (Ho, Column 3, lines 12-17). However, Ho fails to disclose or suggest making changes to the order in which call setup messages are sent and received.

More specifically, the combination of APA and Ho fails to disclose or suggest carrying out checking functions at the beginning of voice mode. Rather, the method and apparatus disclosed by Ho teaches that the checking functions are carried out during call

set up, which is before voice mode (Ho, figure 5 and Column 5, lines 54-65). Figure 5 of Ho specifically discloses sending the checking functions, which includes the identity and authentication messages, prior to the setup and channel mode modify messages that are part of the call setup procedure, as is known in the art.

As is also known in the art, voice mode begins after the connect and connect_ack messages are sent. Additionally, the connect and connect_ack messages are sent after the setup and channel mode modify messages. Therefore, if the identity and authentication messages (i.e. the checking functions) are sent before the setup and channel mode modify messages, as disclosed by Ho, they must necessarily be sent before the connect and connect_ack messages as well. Thus, the identity and authentication messages are sent before voice mode, and consequently the checking functions in Ho are performed before voice mode.

Therefore, APA and Ho, whether viewed alone or in combination, fail to disclose or suggest all of the elements of claim 1. Specifically, the combination of Ho and APA does not disclose or suggest carrying out the checking functions at the beginning of voice mode after ring-back tone has been received from the local exchange.

It is further submitted that claims 2-5 and 8-10 depend from claim 1 and thus should be allowed for at least their dependence on claim 1, and for the specific limitations recited therein.

As mentioned previously, the Official Action took the position that it would have been obvious to a person of ordinary skill in the art to combine APA and Ho to yield the

claimed invention. Applicants respectfully submit that the combination of APA and Ho fail to disclose or suggest critical and important elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-5 and 8-10 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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